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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Donald L. Nisley et al.

Serial No.: 09/938,793

Filed: August 24, 2001

For: SEALING SYSTEM FOR  
BEARING ASSEMBLY

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Group Art Unit: 3683

Examiner: Torres, Melanie

Atty. Docket: DODG:0044/YOD/EUB  
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Sir:

**REPLY BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 and 41.41**

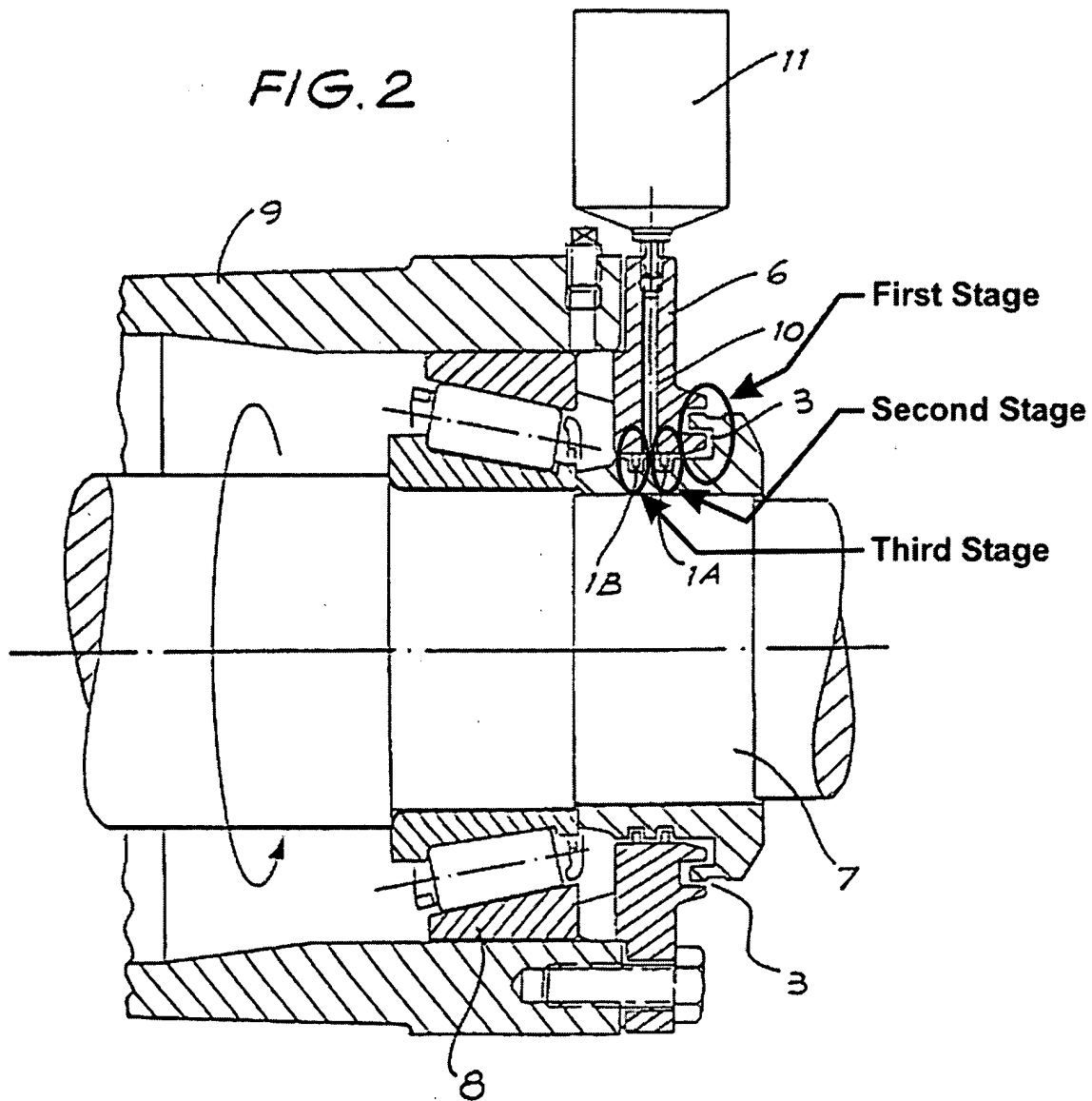
Appellants submit this Reply Brief pursuant to 37 C.F.R. §§ 41.31 and 41.41, and in response to the Examiner's Answer mailed on September 7, 2006. Specifically, this Reply Brief highlights the underlying deficiencies of the contentions made by the Examiner in the Examiner's Answer with respect to the Grzina and Hatch et al. references. Appellant, however, respectfully requests that the Board consider Appellants' complete arguments set forth in the previously filed Appeal Brief, in addition to the following remarks.

### **REMARKS**

Notwithstanding the Examiner's contentions in the "Response to Arguments" section of pages 10-12 of the Examiner's Answer, Appellants respectfully submit that the Examiner has still failed to establish a *prima facie* case of either anticipation or obviousness with regard to claims 1-10 and 12-21 of the present application. As stressed throughout the Appeal Brief, the Grzina and Hatch et al. references collectively fail to teach each and every element of the instant claims and, consequently, simply cannot support the Examiner's rejection.

Appellants respectfully submit that the arguments laid out in the Examiner's Answer are based on a fundamental misunderstanding or mischaracterization of the term "*single-stage* rotating seal," as recited in the present claims. As noted previously, independent claim 1 recites "a rotatable flinger ... configured to form a single-stage rotating seal," while independent claim 13 similarly recites "a rotatable member ... configured to form a single-stage rotating seal." As would be immediately appreciated by one skilled in the art, while the present claims recite a flinger or member configured to form a *single-stage* rotating seal, the prior art relied upon by the Examiner clearly teaches members that are configured to form *multi-stage* rotating seals.

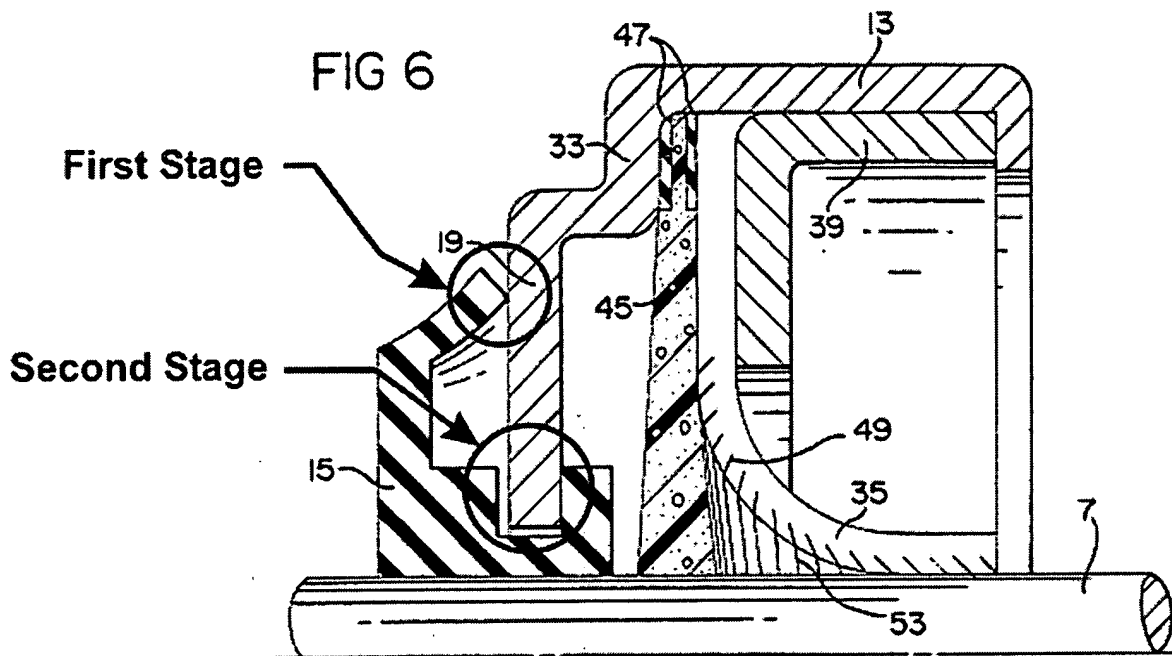
For illustrative purposes, Appellants refer to exemplary figures from the Grzina and Hatch et al. references, as well as from the present application. Further, for the sake of clarity, Appellants have annotated such drawings to denote the sealing stages of each respective reference or application. Particularly, the Grzina reference discloses the following arrangement:



Grzina, FIG. 2. As noted in the Appeal Brief, the Grzina apparatus includes an end cover 6 secured to a bearing housing 9. *Id.* at col. 1, lines 43-55. The bearing housing 9 is configured to receive a shaft 7 and bearings 8. *Id.* Further, a shaft collar (not numbered) is attached to shaft 7 and cooperates with seal rings 1A and 1B to form two inner rotating seal stages, while further cooperating with the cover 6 to form an outer rotating seal stage that is denoted labyrinth passage or seal 3. *Id.* at col. 2, lines 16-20. These three seal stages control the egress of grease, inserted via passageway 10, from the Grzina

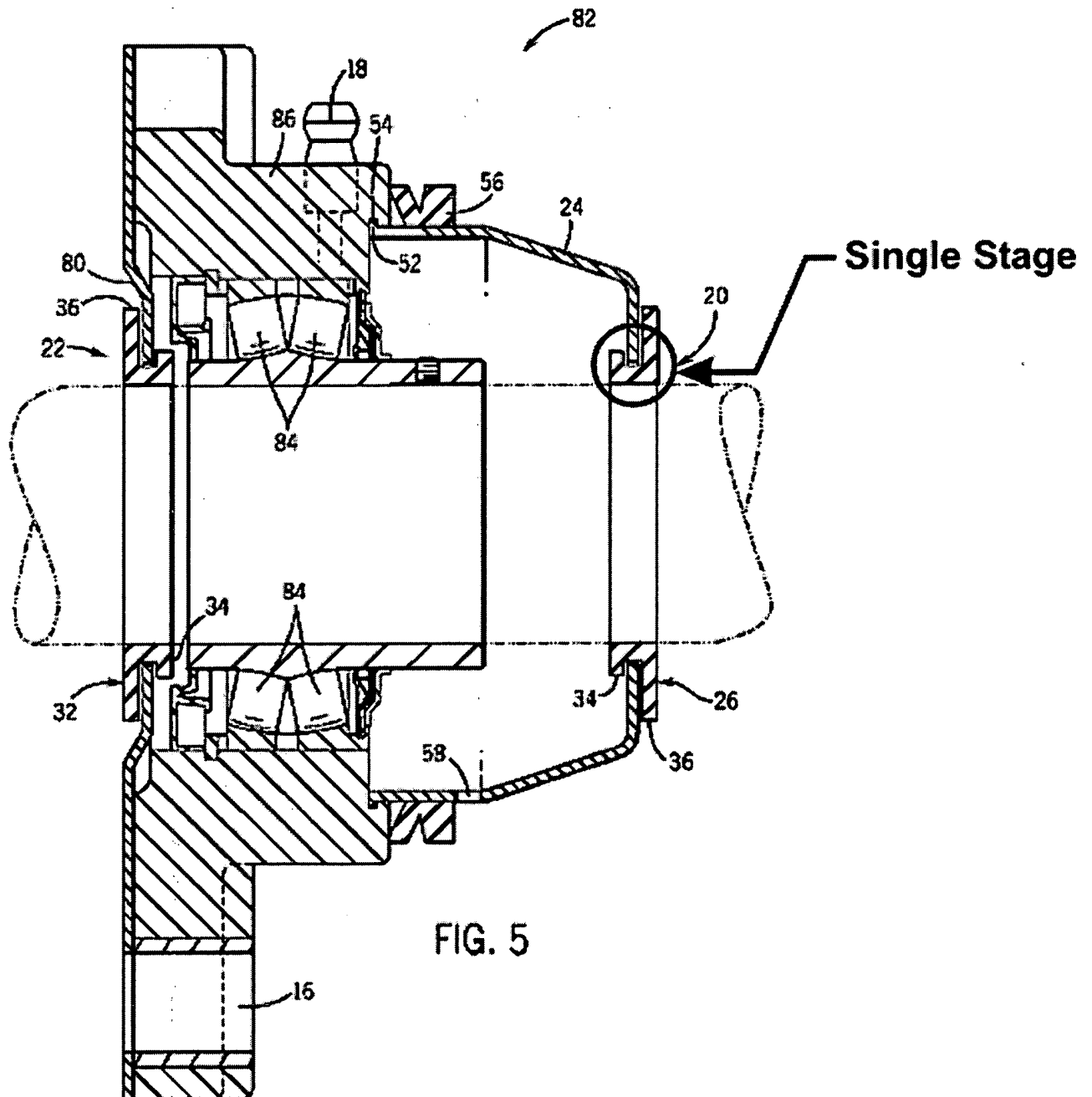
apparatus. *Id.* at col. 2, lines 26-38; *see id.*, FIG. 2. It is important to note that the shaft collar of the cited reference forms both inner *and* outer seal stages. In particular, one of ordinary skill in the art will recognize that the Grzina shaft collar is configured to form a *multi-stage*, or three-stage, rotating seal assembly, as noted in the illustration above.

Similarly, the Hatch reference depicts the following arrangement:



Hatch et al., FIG. 6. As also noted previously, the Hatch et al. reference discloses a seal 9 mounted over a shaft 7. *Id.* at col. 4, lines 7-10. The seal 9 includes an annular case member 13, which has a radial flange 19, and an annular shaft engaging member 15. *Id.* at col. 4, lines 10-32; *see also id.*, FIG. 2. The shaft engaging member 15 includes a channel 17 (FIG. 2) and a radially projecting lip element 25 (FIG. 2). *Id.* at col. 4, lines 26-66; *see id.*, FIG. 3. Importantly, the end portion of the lip element 25 cooperates with a contact surface of flange 19 to form a first seal stage, while the channel 17 of shaft engaging member 15 cooperates with the end of flange 19 to form a second seal stage, as noted above. *See also id.*, FIGS. 2-5. In other words, the shaft engaging member 15, at best, is configured to form a *multi-stage*, or two-stage, rotating seal.

In sharp contrast, the present claims recite a rotatable flinger or member “configured to form a *single-stage* rotating seal” (emphasis added). For instance, in reference to one exemplary embodiment, the present application discloses the following arrangement:



Application, FIG. 5. In this illustrated embodiment, a rotatable flinger 26 is secured to a cover 24 to form a *single-stage* rotating seal between these two elements, in which the flinger 26 rotates with respect to the cover 24, as noted above. *See, e.g., id.* at page 6, line 13 – page 7, line 9; page 8, line 27 – page 9, line 2; FIG. 3. Thus, while the prior art relied upon by the Examiner may include members that rotate with a shaft and are configured to form *multi-stage* rotating seals, none of these references disclose, teach, or even suggest a rotatable flinger “configured to form a *single-stage* rotating seal” (emphasis added) as disclosed and claimed in the instant application.

Keeping these teachings and differences in mind, the present rejections are demonstrably erroneous. In the Examiner’s Answer, the Examiner suggested a belief that the “configured to form a single-stage rotating seal” recitation is contained within the context of functional language, and that the Grzina seal assembly functions in the same manner. *See* Examiner’s Answer mailed September 7, 2006, page 10. First, in terms of syntax, Appellants respectfully note that the “configured to form a single-stage rotating seal” recitation modifies the structure of the recited “rotatable flinger” or “rotatable member” and, thus, Appellants do not necessarily agree with the Examiner’s characterization of this recitation as functional language. Even assuming for the sake of argument, however, that such a characterization was proper, it is evident that the only structural member of Grzina remotely comparable to the recited “rotating flinger” is the shaft collar of the cited reference. Further, as noted above, the Grzina shaft collar is configured to form a *multi-stage* rotating seal, not a *single-stage* rotating seal. Consequently, it is evident that the rotating member of the Grzina reference neither operates nor is configured to form a single-stage rotating seal, and that this cited reference cannot anticipate the present claims.

Second, the Examiner also argued that, because of the use of the transition term “comprising” in the preamble, the claim language does not require that the seal contain only a single stage. *Id.* at pages 10-11. While Appellants certainly agree that the term “comprising” is open-ended, Appellants respectfully note that the term does not allow the

Examiner to simply ignore the plain and ordinary meaning of other claim terms, such as the term “single-stage.” By way of example, claim 1 recites:

1. A bearing assembly, comprising:
  - a bearing insert;
  - a bearing housing adapted to house the bearing insert;
  - a cover removably securable to the bearing housing, wherein the cover extends outwardly beyond an outermost edge of the bearing housing;
  - and
  - a rotatable flinger secured to the cover outwardly beyond the outermost edge of the bearing housing and configured to form a single-stage rotating seal, the rotatable flinger comprising:
    - a first opening therethrough, the first opening being adapted to receive a rotatable shaft and to enable the rotatable flinger to form a compression seal against the rotatable shaft; and
    - an outer flange disposed external to the cover to fling material that comes into contact with the outer flange away from the bearing assembly.

Thus, in a general sense, the bearing assembly of claim 1 includes, among other things: (1) a bearing insert, (2) a bearing housing, (3) a cover, and (4) *a rotatable flinger secured to the cover ... and configured to form a single-stage rotating seal*. Because the term “comprising” following the preamble is open-ended, it is well-settled that other elements may be added to the claimed apparatus while still reading on the claim. Importantly, however, a prior art reference does not anticipate the instant claim unless the cited reference teaches each of the explicitly recited elements. Notably, independent claim 1 clearly recites “a rotatable flinger ... configured to form a single-stage rotating seal.” The cited references fail to teach this element.

Appellants respectfully note that, while there is no *ipsissima verba* requirement, in order for a prior art reference to anticipate a claim “[t]here must be *no difference* between the claimed invention and the reference disclosure, as viewed by a person of

ordinary skill in the field of the invention.” See *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991) (emphasis added). Further, Appellants respectfully note that any person of ordinary skill in the art would immediately appreciate the distinction between a single-stage seal and a multi-stage seal. Still further, it is axiomatic that terms in a claim must be given their ordinary meaning unless it is apparent that the inventor used them differently in the patent. *Intellical, Inc. v. Phonometrics, Inc.*, 21 U.S.P.Q.2d 1383, 1386 (Fed. Cir. 1992).

At best, the Grzina and Hatch et al. references each teach a rotating member that is configured to form a *multi-stage* rotating seal—not a *single-stage* rotating seal as recited in the instant claims. In fact, from their common and ordinary meanings, it is readily apparent that the modifiers “multi-” (i.e., more than one) and “single-” (i.e., one and only one; solitary) are mutually exclusive. By way of analogy, a dog is a *multi-celled* organism and, although it certainly comprises at least one cell, it is *not a single-celled* organism. The word “exemplary” is a *multi-syllabic* word and, although it comprises at least one syllable, “exemplary” is *not a mono- or single-syllabic* word. As noted previously, a bicycle is a *multi-wheeled* vehicle and, although it includes at least one wheel, a bicycle is not a *single-wheeled* vehicle. Similarly, each of the Grzina and Hatch et al. references discloses an element that is configured to form a *multi-stage* rotating seal and, although the seal comprises at least one sealing stage, the *multi-stage* rotating seal is not a *single-stage* rotating seal. The inclusion of the transition term “comprising” following the preamble may allow the inclusion of additional, unrecited elements (including other members that may be configured to form multi-stage rotating seals), but does not absolve the Examiner’s present failure to particularly identify *any* structure or element in the prior art references that may be reasonably equated with the recited “rotatable flinger ... configured to form a *single-stage* rotating seal” (emphasis added). Consequently, upon a reasonable construction of the claims at issue, it is evident that the Grzina and Hatch et al. references collectively fail to disclose each and every element of



the present claims and, accordingly, fail to anticipate or render obvious the subject matter of these claims.

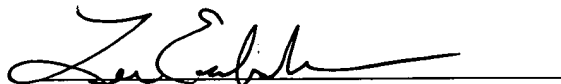
For at least the reasons provided above, as well as for the other reasons provided in the Appeal Brief filed March 20, 2006, Appellants respectfully request withdrawal of the rejections under 35 U.S.C. §§ 102 and 103, and request allowance of claims 1-10 and 12-21.

**Conclusion**

Based upon the above points of clarification in conjunction with the arguments made in the previously filed Appeal Brief, Appellants believe that the claims are clearly not anticipated or rendered obvious by the cited art. The Examiner's rejections, therefore, cannot stand. Appellants, accordingly, respectfully request that the Board withdraw the outstanding rejection and pass the present application to allowance.

Respectfully submitted,

Date: November 7, 2006



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